

REMARKS

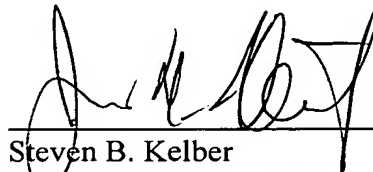
Claim 1 stands rejected under 35 U.S.C. 102(b) as being anticipated by Palmour (U.S. Patent No. 5,270,554.) This rejection is respectfully traversed with respect to the claim as amended. Claim 1 now requires the semi-insulating silicon carbide layer to have “boron-related D-center defects.” Palmour neither discloses nor suggests such defects. Rather, Palmour discloses using boron doping to form SiC layers having a resistivity of 10,000 ohm per cm or greater. Resistivities such as this are formed by what is commonly referred to as “shallow boron acceptor doping.” (The characterization of such doping as “deep” in Palmour may be a reference to the fact that the shallow boron level is deeper than that of other common acceptor dopants such as aluminum. See Mazzola et al., “Boron Compensation of 6H Silicon Carbide,” p. 1 (1998). In contrast to the 10K ohm per cm resistivities disclosed in Palmour, the present invention involves resistivities many orders of magnitude greater, e.g., 10^{12} ohm per cm as recited in Claim 3. Such D-center defects are neither disclosed nor suggested by Palmour. Accordingly, withdrawal of the rejection of Claim 1 and all claims dependent thereon is respectfully requested.

Claim 38 stands rejected under 35 U.S. C. 102(e) as being anticipated by Ajit. Claim 38 has been amended to require a semi-insulating layer with “boron-related D-center defects formed therein.” Ajit neither discloses nor suggests this limitation. Accordingly, withdrawal of this rejection of Claim 38 and all claims depending therefrom is respectfully requested.

In light of the above, Applicants submit that this application is now in condition for allowance and therefore request favorable consideration. If any issues remain which the Examiner feels may be best resolved through a personal or telephonic interview, the Examiner is respectfully requested to contact Applicants' counsel, James M. Heintz at (202) 861-4167.

Respectfully submitted,

PIPER RUDNICK LLP



Steven B. Kelber
Registration No. 30,073
Attorney of Record

1200 Nineteenth Street, N.W.
Washington, D.C. 20036-2412
Telephone No. (202) 861-3900
Facsimile No. (202) 223-2085

James M. Heintz
Registration No. 41,828